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PEGGY M. HATCH
SECRETARY

State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL COMPLIANCE

April 20, 2015

Mr. Ryan Jacob, Environmental Services Manager
Denbury Onshore, LLC
481 Highway 609
Delhi, Louisiana 71232

Re: RECAP Site Investigation Report
Denbury Resources, Inc.
125-1 Site (Saltwater Pipeline Release), **AI No. 186776**
Off LA Highway 132 (South of Ferguson Road)
Dunn, Richland Parish, Louisiana

Dear Mr. Jacob:

The Louisiana Department of Environmental Quality (LDEQ) has completed review of the "RECAP Site Investigation Report" for the 125-1 site dated December 8, 2014, submitted on your behalf by Cork Environmental Resource Group, Inc. (CERG). Thank you for providing this information.

Based on a technical review of the referenced document, LDEQ concurs that brine constituents in soil, as indicated by electrical conductivity (EC), sodium adsorption ratio (SAR), and exchangeable sodium percentage (ESP), exceed the applicable standards and require corrective action to address these exceedances. In accordance with RECAP, Appendix D, "Non-traditional Parameters", the Louisiana Department of Natural Resources Office of Conservation, LAC 43:XIX Statewide Order 29-B Chapter 3 Pollution Control limitations for EC of < 8 mmho/cm, SAR < 14, and ESP < 25% for soil in an elevated, freshwater wetland area where the release site is not normally inundated were selected as "Applicable or Relevant and Appropriate Requirements (ARARs)" for the protection of vegetation. DEQ concurs with the recommended corrective actions for these soils, including:

- natural recovery of native vegetation for each vegetative unit described in the Screening Level Ecological Assessment (SLEA) and the Wetland Delineation Report (WDR), including Unit 1 (wet pasture area), Unit 2 (shrub/scrub wetland), Unit 3 (fallow area), and Unit 4 (wet hardwood area);
- removal of dead trees;
- site restoration and regrading surface soils to pre-release conditions;
- annual fall mowing/bush hogging as necessary to prevent the establishment of invasive/noxious plant species;
- implementation of a semi-annual vegetative recovery assessment (VRA) program to be conducted for a period of two (2) years, or longer if necessary, in order to evaluate the overall natural recovery of native vegetation in the units; methodology and protocols utilized in the collection and evaluation of data for the SLEA shall be used for the VRA program;
- implementation of a semi-annual soil monitoring program to include collection of shallow soil samples (0-3 ft.) from known boring locations that exceeded the applicable limiting RECAP standards for soils. The soil samples will be analyzed for EC, ESP, and SAR in order to evaluate any changes in soil concentrations over the proposed period and to assess the need for any additional action;

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- submittal of a semi-annual report summarizing the results of the VRA and the soil monitoring program; and
- upon completion of all required activities, submittal of a final corrective action report providing documentation that the site is eligible for a No Further Action – At This Time (NFA-ATT) determination.

The corrective actions described above are approved for immediate implementation. Site restoration, semi-annual vegetative recovery assessment and semi-annual soil monitoring activities may be commenced at the earliest possible opportunity. Please notify this office at least five (5) calendar days in advance of the initiation of field activities to allow for field oversight.

The groundwater standards presented in this submittal are calculated by application of a dilution and attenuation factor (DAF) from the point of compliance (POC) to the point of exposure (POE); however, for a groundwater classification of GW₂, the point of exposure is defined as the nearest downgradient property boundary. In this case, the extent of release extends from the POC onto the adjacent property, resulting in a DAF of 1. Accordingly, the Limiting RECAP Standard (LRS) for chlorides in groundwater shall be set at the EPA secondary drinking water standard of 250 mg/L and the LRS for sodium in groundwater shall be set at the EPA drinking water advisory limit of 60 mg/L. Comparisons of the detected concentrations of chlorides in groundwater (568 mg/L at sample location B-1) and detected concentrations of sodium in groundwater (224 mg/L at sample location B-1) indicate exceedances of RECAP GW₂ standards for both chlorides and sodium in groundwater at the site. Accordingly, additional investigation and/or corrective action must be proposed to address these exceedances. Within ninety (90) days of receipt of this letter, DEQ requests submittal of a work plan for conducting additional investigation, RECAP evaluation, and/or corrective action to address exceedances of the LRS for groundwater.

Please contact me at (318) 362-3048 with any questions. All future correspondence regarding this matter should be submitted in triplicate and directed to: Mr. Gary A. Fulton, Jr., Administrator, Underground Storage Tank and Remediation Division, P. O. Box 4312, Baton Rouge, Louisiana 70821-4312. One of the copies should be directed to my attention. Please include the Agency Interest (AI) number and reference line information as indicated above on all correspondence. Thank you for your cooperation.

Sincerely,



Steve Archibald, Geologist
Geological Services Section – Geology Group 1
Underground Storage Tank & Remediation Division

sma

c: LDEQ – USTRD – Geology Group 1
LDEQ Imaging Operations – GW
Mr. Brandon Cork – CERG